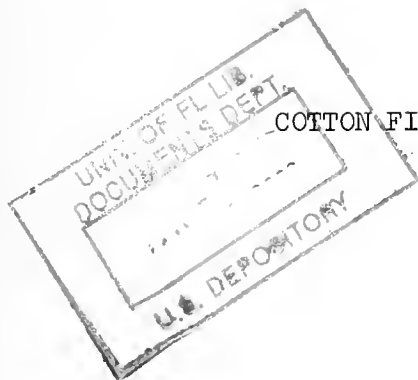


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UNITED STATES DEPARTMENT OF AGRICULTURE  
Consumer and Marketing Service  
Cotton Division  
Washington, D. C. 20250



COTTON FIBER AND PROCESSING TEST RESULTS

CROP OF 1966



## COTTON FIBER AND PROCESSING TEST RESULTS, CROP OF 1966

This is the fourth of a series of reports on the fiber and processing test results on the 1966 cotton crop. These reports are issued twice each month during the harvesting season and are summarized in a comprehensive report at the end of the season. This 1966 group of reports will give data on the same subject as AIB 309, "Annual Cotton Quality Survey, Summary of Results of Fiber and Processing Tests from Selected Production Areas, Crop of 1965," dated April 1966.

Recent modernization of testing equipment has resulted in slight changes in test levels for some items. To compare previous years' results to those reported for the 1966 crop, the following adjustments should be made:

1. Yarn imperfections for previous years  $\times 0.6 = 1966$  levels.
2. Spinning potential yarn no. for previous years  $\times 1.1 = 1966$  levels.

An explanation of these changes is contained in the first report of this series, CT (1966) 1, dated August 26, 1966.

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## Discussion of Test Results

Cotton Division laboratories of the Consumer and Marketing Service report that short staple upland samples tested thus far this season from the Southwestern Area show averages virtually unchanged from last season for fiber length and length distribution, and fiber strength by both the zero-gage and 1/8-inch gage tests. The micronaire readings for this season's short staple samples are lower than for the same period last season; however, there have been only one-half as many samples tested as for last season, and this may have some bearing on the apparent differences. Shirley Analyzer nonlint content and picker and card waste are higher than last year. Yarns from these samples are stronger with higher appearance indices and lower imperfection counts than a year ago.

Southeastern Area samples tested to date are stronger and coarser than for the same period last season. Fiber length is about the same, with a higher uniformity ratio than a year ago. Shirley Analyzer nonlint content and picker and card waste remain on the same levels as last year. Yarns from these samples show the same strength as last year, with yarn appearance higher; however, yarn imperfections are also higher than last year.

Southwestern Area medium staple samples tested this season show slightly longer and stronger fibers with higher micronaire readings than a year ago. Shirley Analyzer nonlint content and picker and card waste are higher than for the same period last season. These samples produced yarns with about the same strength as last year, with higher appearance indices and lower imperfection counts.

Samples tested to date from the South Central and Western Areas are too few for analyses and comparisons. It is anticipated that discussions for these Areas will appear in the next report.

Table 1.--Cotton: Averages of fiber and processing tests from selected gin points in the United States through September 30, 1966 1/

Staple group, area, and crop year	: Lots :	Fiber test results				Processing test results			
		Fibrograph :	Micro- :	Fiber strength:	Shirley :	Picker :	Yarn quality		
		tested: 2.5% :50/2.5:	naire :	Zero : 1/8"	: Analyzer: & card :	Skein :Appear--:Imper-			
		: span : unif.:fineness:	Gage : Gage :	nonlint :	waste :	strength: ance :fection			
	No.	Inches	Pct.	Rdg.	M/psi	G/tex	Pct.	Lbs.	Index No. <u>2/</u>
Short staple:									
Southwest:									
1965	20	.94	46	4.5	82	20.3	2.5	91	109 21
1966	10	.94	46	4.2	82	20.6	3.0	94	117 17
Medium staple:									
Southeast:									
1965	44	1.08	45	4.4	77	21.1	2.5	105	105 16
1966	24	1.07	47	5.0	83	22.9	2.4	104	112 18
Southwest:									
1965	43	1.05	46	4.4	84	21.9	2.4	105	109 19
1966	30	1.06	46	4.7	85	21.9	3.0	107	118 14
Significant difference <u>3/</u>									
		0.02	2	0.2	2	0.5	0.5	4	5 2

1/ Based on a limited number of samples of modal quality.

2/ Adjusted to 1966 level (Imperfection no. x 0.6) to reflect cleaning action of card crusher rolls.

3/ Minimum difference considered to be significant for comparison in this table. These guides are based upon averages of a number of lots and are not applicable to individual samples.

Table 2.--Cotton, American upland short staple: Quality characteristics by production areas, crop of 1966

Area	Southwestern		
State	South Texas	Central Texas	
Production area	Taft	Lockhart	Waco
Predominant variety	Lankart 611	Anton 99	Lankart 57
Percentage of variety at gin	75	90	98
Triweekly sampling	Third	Second	First
RAW COTTON QUALITY			
Grade .....designation	SLMLtSp	SLMLtSp	SLMLtSp
Staple length .....inches	31/32	15/16	29/32
Fiber length (Digital Fibrograph):			
2.5% span length.....inches	.94	.92	.90
Uniformity ratio (50/2.5).percent	47	48	45
Fiber fineness and maturity:			
Micronaire .....reading	4.6	4.1	4.5
Fiber strength and elongation:			
Zero gauge strength .....1,000 psi	83	85	87
Zero gauge strength .....grams/tex	41.2	42.2	43.2
½-inch gauge strength ..grams/tex	20.7	20.4	21.5
½-inch gauge elongation...percent	6.3	6.6	6.2
Shirley Analyzer:			
Visible waste .....percent	2.1	3.5	2.3
Total visible & invisible..percent	3.4	5.0	3.5
Color of raw cotton:			
Reflectance .....Rd	70.3	70.4	70.0
Yellowness .....+b	8.5	9.8	9.8
Code .....number	453	403	404
PROCESSING RESULTS:			
Picker and card waste.....percent	6.2	6.4	6.0
Yarn skein strength:			
8s( 73.8 tex) .....pounds	299	307	274
22s( 26.8 tex) .....pounds	96	98	85
Average break factor.....	2252	2306	2031
Yarn skein elongation:			
8s( 73.8 tex) .....percent	7.0	6.8	5.9
22s( 26.8 tex) .....percent	6.0	5.9	5.2
Yarn appearance:			
8s( 73.8 tex) .....grade	B+	B+	B+
22s( 26.8 tex) .....grade	B+	B	B+
Average yarn appearance.....index	120	115	120
Yarn imperfections: <u>1/</u>			
8s( 73.8 tex) .....number	23	33	30
22s( 26.8 tex) .....number	13	19	21
Spinning potential... <u>2/</u> ..Yarn number	-	-	34

1/ Level for previous years x 0.6 = 1966 level.

2/ Level for previous years x 1.1 = 1966 level.

Table 3.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1966

Area	Southeastern			
State	Alabama			
Production area	Ashford	Atmore	Deatsville	Goshen
Predominant variety	Mxd-Mnly	Coker 100	Car. Queen	Auburn 56
Percentage of variety at gin	Dixie Kng II:	95	100	75
Triweekly sampling	First	First	First	First
<b>RAW COTTON QUALITY</b>				
Grade .....designation	SLMLtSp	SLM	M	M
Staple length .....inches	1-1/32	1-1/32	1-1/32	1-1/32
Fiber length (Digital Fibrograph):				
2.5% span length.....inches	1.02	1.11	1.06	1.02
Uniformity ratio (50/2.5)..percent	47	46	47	47
Fiber fineness and maturity:				
Micronaire .....reading	5.5	4.8	5.6	5.2
Fiber strength and elongation:				
Zero gauge strength .....1,000 psi	85	80	86	86
Zero gauge strength .....grams/tex	42.1	39.5	42.4	42.8
1/8-inch gauge strength ..grams/tex	23.0	22.4	23.2	23.0
1/8-inch gauge elongation...percent	4.9	5.3	5.1	5.1
Shirley Analyzer:				
Visible waste .....percent	3.5	2.5	0.9	1.2
Total visible & invisible..percent	4.1	3.3	2.1	1.8
Color of raw cotton:				
Reflectance .....Rd	70.8	74.2	77.0	77.0
Yellowness .....+b	9.3	8.6	9.0	9.1
Code .....number	403	402	302	302
<b>PROCESSING RESULTS:</b>				
Picker and card waste.....percent	6.5	5.7	4.8	4.2
Yarn skein strength:				
22s ( 26.8 tex) .....pounds	92	98	102	104
50s ( 11.8 tex) .....pounds	28	32	33	34
Average break factor.....	1712	1878	1947	1994
Yarn skein elongation:				
22s ( 26.8 tex) .....percent	5.3	5.9	6.0	6.0
50s ( 11.8 tex) .....percent	3.7	4.4	4.6	4.5
Yarn appearance:				
22s ( 26.8 tex) .....grade	B	B+	B	B+
50s ( 11.8 tex) .....grade	B	C+	C+	B
Average yarn appearance.....index	110	110	105	115
Yarn imperfections: <u>1/</u>				
22s ( 26.8 tex) .....number	11	16	13	9
50s ( 11.8 tex) .....number	10	11	11	6
Spinning potential... <u>2/</u> ..Yarn number	48	59	52	58

1/ Level for previous years x 0.6 = 1966 level.

2/ Level for previous years x 1.1 = 1966 level.

Continued on page 7

Table 3.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1966--Continued

Southeastern						
Alabama	Florida	Georgia				
La Fayette	Jay	Blakely	Camilla	Colquitt	Madison	Soperton
Coker 100	Car. Queen	Coker 100	Car. Queen	Mxd-Mnly	Carolina Queen	
75	90	85	98	Auburn 56	100	100
First	First	First	First	First	First	First
M	SM	SIM	M	M	M	MLtSp
1-1/16	1-1/32	1-1/32	1-1/32	1-inch	1-1/32	1-1/32
1.08	1.06	1.04	1.06	1.05	1.05	1.09
46	46	47	47	46	50	44
5.1	4.9	5.1	5.5	5.1	5.5	4.2
80	82	82	84	81	85	81
39.6	40.5	40.4	41.7	40.3	42.1	40.3
21.5	23.0	22.3	22.3	21.6	23.2	21.5
6.1	5.3	5.6	5.2	5.0	5.1	5.2
1.0	1.7	2.9	1.1	1.2	1.8	2.4
1.6	2.5	4.2	2.1	1.8	2.8	2.6
76.5	73.0	71.7	76.2	75.6	77.0	74.5
9.2	8.7	9.0	9.2	8.9	9.0	8.5
302	402	403	302	352	302	402
3.8	5.1	5.7	5.1	4.9	4.8	4.8
109	100	100	94	95	102	104
39	33	34	28	30	31	35
2174	1925	1950	1734	1795	1897	2019
6.4	5.9	5.9	6.0	5.5	5.8	6.8
5.1	4.5	4.6	4.3	4.2	4.2	5.1
B	B	B	B	B	B+	C
C+	C+	C+	B	C+	B	D+
105	105	105	110	105	115	85
16	21	19	27	22	14	28
12	17	15	21	15	7	22
68	62	59	47	53	54	62

Continued on page 8

Table 3.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1966--Continued

Area State	Southeastern			
	Georgia			So. Car.
Production area	Sylvania	Tennille	Unadilla	Aiken
Predominant variety	Coker 100		Carolina Queen	
Percentage of variety at gin	70	90	100	95
Triweekly sampling	First	First	First	First
<b>RAW COTTON QUALITY</b>				
Grade .....designation	M	SLM	SLM	M
Staple length .....inches	1-1/16	1-1/16	1-1/16	1-1/16
Fiber length (Digital Fibrograph):				
2.5% span length.....inches	1.10	1.07	1.06	1.07
Uniformity ratio (50/2.5).percent	47	48	47	49
Fiber fineness and maturity:				
Micronaire .....reading	4.6	5.0	5.3	5.3
Fiber strength and elongation:				
Zero gauge strength .....1,000 psi	83	83	82	87
Zero gauge strength .....grams/tex	40.9	41.1	40.4	42.9
1/4-inch gauge strength ..grams/tex	23.7	22.6	23.1	23.7
1/4-inch gauge elongation...percent	5.3	5.2	5.6	4.8
Shirley Analyzer:				
Visible waste .....percent	1.0	2.2	1.8	1.3
Total visible & invisible..percent	1.6	2.9	2.6	2.0
Color of raw cotton:				
Reflectance .....Ra	77.0	73.3	71.0	77.0
Yellowness .....+b	9.0	9.1	8.8	8.8
Code .....number	302	353	453	302
<b>PROCESSING RESULTS:</b>				
Picker and card waste.....percent	4.6	6.1	4.6	4.6
Yarn skein strength:				
22s ( 26.8 tex) .....pounds	111	105	100	104
50s ( 11.8 tex) .....pounds	39	35	31	34
Average break factor.....	2196	2030	1875	1994
Yarn skein elongation:				
22s ( 26.8 tex) .....percent	6.8	6.2	5.6	6.2
50s ( 11.8 tex) .....percent	5.1	4.6	4.1	4.6
Yarn appearance:				
22s ( 26.8 tex) .....grade	B	B	B	B+
50s ( 11.8 tex) .....grade	C+	C	C+	B
Average yarn appearance.....index	105	100	105	115
Yarn imperfections: <u>1/</u>				
22s ( 26.8 tex) .....number	20	24	17	26
50s ( 11.8 tex) .....number	16	18	13	19
Spinning potential.. <u>2/</u> ...Yarn number	63	62	53	59

1/ Level for previous years x 0.6 = 1966 level.  
2/ Level for previous years x 1.1 = 1966 level.

Continued on page 9



Table 3.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1966--Continued

Southeastern South Carolina						
Aiken	Batesburg	Denmark	Eutawville	Mayesville	St Matthews	
Car. Queen	Coker 413	Carolina Queen	Coker 100	Car. Queen	All-In-One	
95	100	100	100	100	100	100
Second	First	First	Second	First	First	First
LM	M	M	SLM	M	M	SLM
1-1/16	1-1/8	1-1/16	1-1/16	1-1/16	1-1/16	1-1/16
1.07	1.13	1.04	1.06	1.07	1.10	1.06
47	49	46	47	45	47	44
4.9	4.5	5.0	5.0	4.6	5.0	4.4
82	91	85	79	80	84	81
40.4	44.9	42.2	39.3	39.6	41.8	40.2
23.2	26.4	22.7	22.5	21.8	23.6	22.7
5.5	4.9	5.1	5.7	4.9	5.1	5.7
2.5	2.3	1.0	1.8	0.9	0.9	2.4
3.4	3.1	1.6	2.7	1.7	1.6	2.9
72.0	78.0	76.3	71.3	76.3	76.5	74.3
8.6	8.6	8.8	9.1	9.0	9.4	8.8
302	302	302	403	302	303	352
4.3	4.3	3.8	4.8	4.2	4.5	5.1
103	125	106	106	107	105	104
46	46	35	36	36	36	36
2008	2525	2041	2066	2077	2055	2044
6.3	6.5	6.3	6.6	6.5	6.1	4.8
4.5	5.0	4.7	4.7	4.9	4.8	6.1
B	B	B+	B	B	B	B
C+	B	B	C+	C+	C+	C+
105	110	115	105	105	105	105
26	13	12	23	9	20	21
20	10	11	19	8	18	16
-	70	62	-	60	59	62

Continued on page 10

Table 3.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1966--Continued

Area	Southeast :		South Central	
State	So. Car. :	Louisiana	Mississippi	
Production area	York	Arnaudville:	Carencro	Hazelhurst
Predominant variety	Car. Queen :	Mxd-Mnly	Stnvl 213	Mxd-Mnly
Percentage of variety at gin	100	Stnvl 7A	75	Stnvl 213
Triweekly sampling	First	First	First	First
<b>RAW COTTON QUALITY</b>				
Grade .....designation	SM	M	M	M
Staple length .....inches	1-3/32	1-1/16	1-1/16	1-1/16
Fiber length (Digital Fibrograph):				
2.5% span length.....inches	1.08	1.08	1.05	1.08
Uniformity ratio (50/2.5).percent	47	48	48	46
Fiber fineness and maturity:				
Micronaire .....reading	4.8	4.7	5.0	5.1
Fiber strength and elongation:				
Zero gauge strength .....1,000 psi	87	85	83	84
Zero gauge strength .....grams/tex	43.2	42.2	41.1	41.8
1/8-inch gauge strength ..grams/tex	24.8	22.2	22.3	23.2
1/8-inch gauge elongation...percent	5.0	6.6	6.7	5.4
Shirley Analyzer:				
Visible waste .....percent	0.7	0.7	1.2	1.7
Total visible & invisible..percent	1.4	2.0	2.1	2.5
Color of raw cotton:				
Reflectance .....Rd	77.5	76.2	75.3	76.5
Yellowness .....+b	9.1	8.8	8.9	8.7
Code .....number	252	302	352	302
<b>PROCESSING RESULTS:</b>				
Picker and card waste.....percent	3.8	4.4	5.1	4.2
Yarn skein strength:				
22s ( 26.8 tex) .....pounds	122	108	109	103
50s ( 11.8 tex) .....pounds	44	38	37	34
Average break factor.....	2442	2138	2124	1983
Yarn skein elongation:				
22s ( 26.8 tex) .....percent	6.3	5.8	5.8	6.1
50s ( 11.8 tex) .....percent	4.9	4.8	4.6	4.7
Yarn appearance:				
22s ( 26.8 tex) .....grade	B+	B+	B+	B+
50s ( 11.8 tex) .....grade	B	C+	C+	C+
Average yarn appearance.....index	115	110	110	110
Yarn imperfections: <u>1/</u>				
22s ( 26.8 tex) .....number	5	14	13	10
50s ( 11.8 tex) .....number	5	12	8	9
Spinning potential.. <u>2/</u> ...Yarn number	61	64	62	60

Continued on page 11

1/ Level for previous years x 0.6 = 1966 level.

2/ Level for previous years x 1.1 = 1966 level.

Table 3.--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1966--Continued

South Central				Southwestern		
Mississippi				South Texas	Central Texas	
Indianola	Port Gibson	Tylertown	El Campo	Long Mott	Batesville	Navasota
DPL Smooth Leaf	Car. Queen	Stnvl 7A	DPL Smooth Leaf			
100	95	75	95	99	95	100
First	First	First	Third	Third	Second	First
SLM	SM	M	SLMLtSp	LM	SLMLtSp	SLM
1-1/16	1-1/16	1-1/16	1-1/16	1-1/16	1-1/16	1-1/16
1.06	1.06	1.05	1.04	1.05	1.08	1.07
46	47	48	48	47	46	46
5.1	5.4	5.2	5.1	4.8	4.6	4.8
87	84	84	90	93	84	83
43.3	41.4	41.7	44.7	46.1	41.7	41.2
25.8	23.6	22.4	21.0	22.1	22.6	22.5
6.4	6.5	5.2	4.9	5.3	7.0	7.4
1.9	0.7	1.0	2.0	2.1	1.5	1.2
2.8	1.3	1.9	3.2	3.4	2.9	2.5
75.3	77.5	76.0	68.8	67.0	71.8	73.2
8.6	8.8	9.0	9.3	8.0	9.1	8.5
352	302	302	453	503	403	402
5.1	3.2	4.5	5.4	6.0	5.4	4.9
110	109	102	96	109	112	113
37	37	34	31	38	39	38
2135	2124	1972	1831	2149	2207	2193
6.6	6.4	5.9	4.6	5.4	5.9	6.0
4.8	4.9	4.3	3.3	4.1	4.8	4.4
B+	B+	B	B+	B+	B+	B+
C+	B	C+	C+	C+	C	C+
110	115	105	110	110	105	110
19	8	19	9	13	17	15
15	8	16	8	8	14	10
62	63	59	-	-	-	62

UNITED STATES DEPARTMENT OF AGRICULTURE  
CONSUMER AND MARKETING SERVICE  
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